

NOTEWORTHY VASCULAR PLANTS FROM ARKANSAS

ERIC SUNDELL

*School of Mathematical and Natural Sciences, University of Arkansas
Monticello, AR 71656, U.S.A.*

R. DALE THOMAS

*Department of Biology, Northeast Louisiana University
Monroe, LA 71209, U.S.A.*

CARL AMASON

*P.O. Box 164,
Calion, AR 71724, U.S.A.*

ROBERT L. STUCKEY

*Rt. 1, Box 1440
Texarkana, AR 75502, U.S.A.*

JOHN LOGAN

*Arkansas Natural Heritage Commission
323 Center Street, Little Rock, AR 72201, U.S.A.*

ABSTRACT

The authors provide a list of 41 additions, reinstatements, and significant range extensions for the flora of Arkansas. *Trautvetteria carolinensis*, *Dalea gattingeri*, *Rhynchosia minima*, and *Setaria pumila* are reported as new and persistent elements, while *Magnolia macrophylla*, *Didiplis diandra*, *Valerianella locusta*, and *Sisyrinchium exile* are reinstated to the state flora. A number of alien weeds are noticed and documented for the first time, however, their persistence is not known.

RESUMEN

Los autores proporcionan una lista donde se enumeran 41 adiciones, confirmaciones, y extensiones significativas para la flora de Arkansas. *Trautvetteria carolinensis*, *Dalea gattingeri*, *Rhynchosia minima*, y *Setaria pumila* se citan como componentes nuevos y persistentes en el área, mientras que *Magnolia macrophylla*, *Didiplis diandra*, *Valerianella locusta*, y *Sisyrinchium exile* se confirman para la flora del estado. Un número de malas hierbas de origen alóctono son mencionadas y documentadas por primera vez, sin embargo, no es conocida su persistencia.

The authors provide a list of 41 taxa representing additions and reinstatements to the Arkansas flora as well as noteworthy range extensions within the state. Herbarium abbreviations are taken from Holmgren et al. (1990).

APIACEAE

Hydrocotyle sibthorpioides Lam. This invasive Asian pennywort occurs sporadically in the Southeast in wet, disturbed habitats. We add three county records to the two recorded by Smith (1988). **Ashley Co.:** *Sundell 11,104* (UAM). **Calhoun Co.:** *Thomas & Amason 157,168* (NLU, UAM). **Pulaski Co.:** *E. & M. Sundell 12,048* (UAM).

ASTERACEAE

Conyza bonariensis (L.) Cronq. This common and widespread horseweed has escaped notice, or at least collection, in southern Arkansas for years—the more remarkable because it forms extensive populations along our major highways that are easily recognized even at speeds of over 60 miles per hour. *Conyza bonariensis* was not discovered in the state until 1989, when Thomas and Amason collected plants in a railroad yard in El Dorado in Union County (Thomas et al. 1991). Voucher specimens taken from roadsides and river banks are recorded here for eight additional counties. **Arkansas Co.:** *Thomas, Sundell, & Amason 145,284* (NLU). **Calhoun Co.:** *Thomas & Amason 157,214* (NLU, UAM). **Cleveland Co.:** *Thomas & Amason 157,108* (NLU, UAM). **Desha Co.:** *Thomas, Sundell, & Amason 145,498* (NLU). **Drew Co.:** *Sundell 12,110* (UAM). **Hempstead Co.:** *Thomas & Amason 155,483* (NLU). **Lafayette Co.:** *Thomas, Sundell, & Amason 150,931, 156,555* (NLU). **Miller Co.:** *Thomas, Sundell, & Amason 151,143* (NLU). The species should be considered an established element of the Arkansas flora.

Crepis setosa Haller f. is known from Missouri (Steyermark 1963) and the northeastern United States (Gleason and Cronquist 1991) as a waif. Although the species is unlikely to persist in Arkansas, its presence is documented by a collection from Russellville in Pope County, where it grew as a weed in pavement cracks, *E., M., & J. Sundell 12,105* (UAM).

BRASSICACEAE

Cardamine concatenata (Michx.) O. Schwartz. Like bloodroot and white trout lily, toothwort is rare enough on Arkansas' West Gulf Coastal Plain to have gone undetected except for a single report for Arkansas County (Smith 1988). We record it here from mesic woodlands in two additional localities. **Drew Co.:** *Sundell & Pagan 10,149* (UAM). **Union Co.:** *Thomas & Amason 109,031* (NLU).

Cardamine debilis D. Don is an unobtrusive and probably undercollected alien weed, sporadically introduced in greenhouses and warmer areas of North America (Rollins 1993). Plants were collected from a flower bed in Pulaski County, October 1997, marking the species' first occurrence in Arkansas. *Sundell 12,258* (UAM, UARK). Although Kartesz (1994) places *C. debilis*

in synonymy with *C. flexuosa* With., the two appear to be distinct and are recognized as such by Rollins.

Cardamine flexuosa With. The alien *Cardamine flexuosa* grew in abundance at Daylite Nursery in Drew County, where it had escaped from containers to surrounding work areas. Rollins (1993) records this infrequently collected cress from several eastern states, Mexico, and Costa Rica. Smith's (1988) report of the species from Baxter County, Arkansas, was based on misidentification of material of *Sibara virginica* (Smith, pers. comm.). Thus we report it here as new to Arkansas. *Sundell* 12,259 (NLU, UAM, UARK).

Lepidium oblongum Small. Although Rollins (1993) describes the range of this prostrate peppergrass as extending east to Arkansas, Smith (1988) has seen only a single specimen from Lonoke County. We here add Washington County to that short list, where it was growing in pavement cracks on the University of Arkansas campus in Fayetteville. *Sundell* 12,264 (UAM, UARK). Collections at NLU document the species' presence in Mississippi and Louisiana as well.

Raphanus sativus L. Radish escapes from cultivation rather frequently in the cooler parts of North America where it is common and abundant in ruderal habitats (Rollins 1993). Although it apparently does not persist as a weed in Arkansas, its occurrence should be noted. In Drew County, a few plants were scattered along a newly seeded road construction site. *Sundell* 12,260 (UAM).

Rorippa sylvestris (L.) Besser. A collection from inside the Mississippi River levee in Chicot County reconfirms the presence of this weedy crucifer in Arkansas, previously reported for Crittenden County by Wilcox in 1973. *Sundell, Thomas, & Amason* 10,952 (UAM).

COMMELINACEAE

Murdannia keisak (Hassk.) Hand.-Maz. This species has been known in Arkansas only from Tucker's 1969 report for Conway County. In 1996, Thomas collected specimens on a shaded roadbank in nearby Pulaski County. *Thomas, Hunter, et al.* 148,617 (NLU).

Murdannia nudiflora (L.) Brenan is an Asian introduction that has become rather common in disturbed sites on the Atlantic and Gulf Coastal Plain (Darwin et al. 1981, Wunderlin 1998). Thomas's collection from Hempstead County in southern Arkansas, where plants dominated a shaded lawn, represents its first record in the state. *Thomas, Amason, et al.* 155,570 (NLU).

Tradescantia crassula Link & Otto. Amason has observed this spiderwort thriving out of doors at his home in Union County for several decades. *Thomas, Sundell, Amason, et al.* 156,721 (NLU).

CYPERACEAE

Cyperus cuspidatus Kunth. This little flat sedge occurs sporadically on the eastern Gulf Coastal Plain (Godfrey & Wooten 1979) and is recorded here from two Arkansas counties. Chicot Co.: *Thomas* 142,804 (NLU). Drew Co.: *E. & J. Sundell* 10,435 (UAM).

EUPHORBIACEAE

Phyllanthus pudens L.C. Wheeler and *Phyllanthus tenellus* Roxb. Both *Phyllanthus pudens* (*E. & M. Sundell* 12,037 [UAM]) and *P. tenellus* (*E. & M. Sundell* 12,038 [UAM]) were found thriving at Daylite Nursery in Drew County where they were escaping to gardens and waste areas from plant containers brought in from Louisiana and Texas. Although both of these species reproduce out of doors in Ouachita Parish in north Louisiana, there is no evidence that they will persist in the Arkansas flora. *Phyllanthus* is largely a tropical and subtropical group with only a single species, *P. carolinensis*, indigenous to the temperate regions of the southeastern United States. Nevertheless, the recent, successful invasion of southern Arkansas by *P. urinaria*, first reported by Smith for Union and Arkansas counties (Smith 1978-1980) and again by Sundell (1986) for additional localities, suggests that if transportation is available, other species of *Phyllanthus* might move north.

FABACEAE

Dalea gattingeri (Heller) Barneby. Known from cedar glades in Tennessee, Georgia, and Alabama (Isely 1990) and, more recently, from Howell County, Missouri, within 10 km of the Arkansas border (Summers et al. 1995), *Dalea gattingeri* was discovered by Logan in Fulton County, Arkansas, in June, 1997 (*Logan* 97-20 [UAM, UARK]) and subsequently recorded in the Arkansas Natural Heritage Commission data base from six additional localities in that county, all dolomite glades (*Logan* 98-34 [UAM]). The species resembles the widespread *D. purpurea*, differing in characters of the inflorescence and bracts.

Rhynchosia minima (L.) DC. This weedy vine was erroneously attributed to the Arkansas flora by Grear (1978) based on a specimen from Aransas (not "Arkansas") National Wildlife Refuge in Aransas County, Texas (Smith 1988). Collections from the shores of the Mississippi River in Chicot County here confirm its presence in the state. *Thomas, Sundell, & Amason* 142,827 (NLU).

Trifolium striatum L. Arkansas is one of a few southeastern states where knotted clover, a European native, has had some success as an escape from cultivation (Isely 1990). We record here four new localities from three counties, nearly doubling its known presence in the state: Pulaski Co.: *Thomas &*

Amason 148,622 (NLU). Saline Co.: *Thomas & Amason* 148,835, 148,850 (NLU). Union Co.: *Thomas & Amason* 149,139 (NLU).

Vicia hirsuta (L.) S.F. Gray is a European native introduced to ruderal sites over much of the United States (Isely 1990). The species has two seeds per fruit and is often mistaken for the more common *V. tetrasperma*, with four seeds per fruit, and overlooked. In Arkansas, it has been documented only from Washington County in the northwest. We add two southern counties on the Louisiana border: Lafayette Co.: *Thomas, Sundell, & Amason* 156,549 (NLU). Union Co.: *Thomas & Slaughter* 104,337 (NLU, UAM).

GENTIANACEAE

Centaurium texense (Griseb.) Fern. Previous records of Texas centaury in Arkansas were limited to a few counties in the Ozark Mountains, however a recent collection from a blackland prairie site in Hempstead County in southwest Arkansas (*Sundell* 12,368 [UAM]) represents an important (though not unexpected) range extension within the state. Several species of calcareous soils exhibit a similar pattern in Arkansas, for example, *Juniperus ashei* Buchholz and *Penstemon cobaea* Nutt.

IRIDACEAE

Sisyrinchium exile Bickn. Based on Hornberger's (1987) merging of *Sisyrinchium exile* with *S. rosulatum*, Smith (1988) excluded the former taxon from the Arkansas flora. Hornberger developed her concepts of *Sisyrinchium* species in the southeastern United States "mostly from herbarium materials" (pers. comm.). However, differences in stature and flower color between those taxa that are immediately apparent in the field are obscure in dried specimens. We recommend reinstatement of *S. exile* based on the following voucher specimens: Ashley Co.: *Thomas* 92,053 (NLU, UAM). Bradley Co.: (where plants of *S. exile* were mixed with the larger and more common *S. rosulatum*): *Sundell & Amason* 11,737 (UAM). Union Co.: *Thomas* 133,595 (NLU).

LAMIACEAE

Clinopodium gracile (Benth.) Kuntze. Thieret reported *Clinopodium gracile* as new to the United States in 1964 from a Louisiana collection. The species has subsequently spread through much of Louisiana and into southern Arkansas. Union Co.: *Thomas & Amason* 143,743 (NLU).

Scutellaria racemosa Pers. This recently introduced South American native is known from scattered localities on the Gulf Coastal Plain (Godfrey & Wooten 1981). Originally picked up in Arkansas in 1992 by Marie Locke during her work on the flora of Jefferson County (Smith, pers. comm.), its presence in Arkansas is documented here by three collections, all from gar-

dens, where the plants were likely contaminants in horticultural material imported from further south. **Drew Co.:** *Sundell 11,601* (UAM). **Jefferson Co.:** *E. & M. Sundell 12,055* (UAM). **Union Co.:** *Thomas & Amason 155,860* (NLU). Time will tell whether this alien skullcap deserves resident status.

LILIACEAE

Erythronium albidum Nutt. Like bloodroot and toothwort, white trout lily in Arkansas is a common species of the Ozark and Ouachita highlands, recorded by Smith (1988) for only two counties on the West Gulf Coastal Plain. We here confirm his report for Arkansas County and add three stations from two other counties, all collections from richly wooded creek bottoms. **Arkansas Co.:** *Butcher s.n.* (UAM). **Cleveland Co.:** *Baker 20* (UAM). **Drew Co.:** *McDougal & Lincoln 15, Barbee, Lamb, & Pagan 36* (UAM).

LYTHRACEAE

Cuphea carthagenensis (Jacq.) J.F. Macb. was first collected in Arkansas in Ashley County by Thomas in 1985 and recorded by Hooks (1986). Like a number of others native to the Gulf Coastal Plain, the species is not unexpected in Arkansas' southern counties. However, blooming from mid-summer to fall, when field activities are typically less intense, it is probably underrepresented in herbarium collections. We report it from a wet site in Lafayette County in southwest Arkansas (*Sundell, Thomas, & Amason 11,852* [UAM]).

Didiplis diandra (Nutt. ex DC.) Wood. Water-purslane was collected at Felsenthal National Wildlife Refuge in Ashley County (*Sundell & McDonald 7623, 7630* [UAM]), where it grew both on mud and submerged in temporarily flooded habitat. It was reported for the state (as *Peplis diandra* Nutt.) by Branner and Coville in 1891 but, to our knowledge, has never been documented.

MAGNOLIACEAE

Magnolia macrophylla Michx. According to Tucker (1976), big leaf magnolia grew as a native plant in Arkansas only in Clay County on Crowley's Ridge in the northeast corner of the state, where a single grove had been reduced by natural hazards and local gardeners to a few small trees. Tucker predicted that the species would soon be extirpated at the site; two trees remained in 1981 (Figlar 1981); a survey of the site in 1995 failed to relocate the species (Meyer 1997). In 1994, Stuckey discovered a single tree of *Magnolia macrophylla* growing on a heavily wooded slope above a stream, in the vicinity of Mandeville near Texarkana in Miller County, in the southwest corner of Arkansas (*Stuckey s.n.* [UAM, UARK]). Wild populations of big leaf magnolia in northern Louisiana are the most likely seed source.

MORACEAE

Fatoua villosa (Thunb.) Nakai. Sundell reported this herbaceous Asiatic weed as new to Arkansas in 1986 based on a Drew County specimen. The species has persisted in southern Arkansas (our most recent collection was made in 1996), however, to our knowledge, it remains restricted to gardens and nurseries, growing vigorously to heights of three feet. **Pulaski Co.:** *Sundell 10,440, E. & M. Sundell 12,049* (UAM). **Union Co.:** *Sundell & Amason 7,461* (UAM), *Thomas & Amason 107,891, 111,269* (NLU).

PAPAVERACEAE

Sanguinaria canadensis L. Bloodroot is documented from almost every county in the Ozark and Ouachita highlands of Arkansas (Smith 1988) but is unknown from most of the southeastern half of the state. The phenomenon of more northern, highland species pioneering on the Coastal Plain was discussed by Kral (1966), who noted that their random distribution on some but not all richly wooded stream terraces in north Louisiana could best be explained by impediments to dispersal rather than environmental limitations. We record bloodroot from the mesic hardwood terrace of Hunger Run Creek in Drew County where it grew with two other highland associates, *Cardamine concatenata* (Michx.) Schwartz and *Viola pubescens* Ait.: *Sundell & Pagan 10,152* (UAM).

POACEAE

Eriochloa acuminata (J. Presl) Kunth var. *acuminata* is known in Arkansas at present from Conway and Mississippi Counties in the north central and northeastern parts of the state (Smith 1988). Recent records from five additional counties suggest that the species is probably undercollected. **Desha Co.:** *Thomas, Sundell, & Amason 145,466* (NLU). **Lafayette Co.:** *Thomas, Sundell, & Amason 150,961* (NLU). **Lee Co.:** *Thomas 134,402* (NLU). **Miller Co.:** *Thomas, Sundell, & Amason 151,107* (NLU). **St. Francis Co.:** *Thomas 131,382* (NLU, UAM).

Rottboellia cochinchinensis (Lour.) Clayton. This noxious Asiatic grass has become naturalized in the West Indies, Florida and Louisiana (Allen 1992). It appeared previously in Arkansas in Ashley County (Smith 1988) and was rediscovered as a weed in a soybean field in 1996 in Arkansas County by Brad Koen of the Arkansas Cooperative Extension Service. *Koen s.n.* (NLU, UAM, UARK).

Setaria pumila (Poir.) Roem. & Schult. This distinctive, narrow-spiked, European bristle grass was first reported for North America (as *S. pallidifusca* [Schum.] Stapf & Hubb.) from a Baton Rouge, Louisiana collection by Thieret and Allen in 1974. It is currently known in that state from twenty

parishes (Thomas & Allen 1993). In addition, a collection at UAM documents its presence in Alabama. *Setaria pumila* has been found in weedy habitats in three southern Arkansas counties. **Ashley Co.:** (1997): *Sundell & Yeiser 12,108* (NLU, UAM, UARK). **Bradley Co.:** (1993): *Thomas 137,493* (NLU, UAM). **Calhoun Co.:** (1998): *Thomas & Amason 157,175* (NLU, UAM).

PORTULACACEAE

Portulaca umbraticola Kunth. Orzell and Bridges (1987) reported this distinctive purslane from Monroe County in eastern Arkansas, and we here note its occurrence at a second locality, in Miller County, in the southwestern corner of the state. *Thomas, Sundell, & Amason 151,119* (NLU).

PRIMULACEAE

Lysimachia japonica Thunb. was reported for Louisiana by Thomas and Allen in 1982. A 1997 collection from Union County documents its presence in southern Arkansas. *Thomas & Amason 155,858* (NLU).

PSILOTACEAE

Psilotum nudum (L.) Beauv. Whisk-fern has been reported by Peck and Taylor (1995) for three counties in southwest Arkansas: Clark, Lafayette, and Union. Thomas recently discovered the species at Grassy Lake in Hempstead County (*Thomas, Amason, Stuckey, et al. 155,572* [NLU]), where seventeen plants were counted around the base of a large baldcypress tree. The species is native in north Louisiana; in the older part of North Monroe, for example, plants are common behind shrubbery that has not been replaced for several decades. All such plants are less than six inches tall and do not get bigger: they are the native diploid of Florida and the Gulf Coast, rather than the much larger greenhouse tetraploid. Based on size, Thomas's Hempstead County plants were diploids and more likely to be natives at the northern edge of their range than waifs.

PTERIDACEAE

Pteris multifida Poir. in Lam. et al. Spider brake was first reported for Arkansas in 1941 from Hot Springs National Park in Garland County, where it has persisted to the present (Taylor 1984). We record a second locality for this naturalized fern. **Union Co.:** *Thomas & Amason 144,850* (NLU).

RANUNCULACEAE

Trautvetteria caroliniensis (Walt.) Vail. was discovered in Arkansas (on Brady Mountain in the Ouachita Highlands, Garland County) in the late 1980's by John Pelton of the Arkansas Native Plant Society. Pelton communicated the discovery to Vernon Bates and Burt Pittman, who were then conducting a floristic inventory of the Ouachita National Forest. Specimens

collected at that time have never been cited in publication as documentation of the population (Bates & Pittman, pers. comm.), however, it is likely that the single Arkansas population of *Trautvetteria* mapped in *Flora of North America* (Parfitt 1997) is the same. The monotypic genus is disjunct in North America and eastern Asia, with North American populations of the eastern and western forests recognized (rather arbitrarily according to Parfitt) at the varietal level. Variety *caroliniensis* of the eastern United States was previously known to occur west of the Mississippi River only at several stations in Shannon County, Missouri (Steyermark 1963). Arkansas plants were growing in abundance on a richly wooded seepage slope with *Smilax laurifolia*, *Viburnum nudum*, *Osmunda cinnamomea*, and *O. regalis* under a closed canopy of mixed hardwoods and pine. *Sundell* 10,473 (UAM, UARK), 10,585 (UAM).

ROSACEAE

***Pyrus calleryana* Dcne.** When Sundell reported callery pear in 1986 as new to Arkansas from Drew and Ashley Counties, the species was already widespread on the state's Coastal Plain as an escape from cultivation to early successional habitats. The stout, thorny trees have proven to be a nuisance to pine reforestation practices. We here document its status as a wild plant in six additional counties, including two upland sites in the Ouachita Mountains. **Calhoun Co.:** *Sundell, Amason, & Etheridge* 7,888 (UAM). **Cleveland Co.:** *Lunsford* 12 (UAM). **Hempstead Co.:** *Thomas, Sundell, & Amason* 139,840 (NLU). **Garland Co.:** *Sundell* 10,650 (UAM, UARK). **Miller Co.:** *Thomas, Sundell, & Amason* 151,152 (NLU). **Montgomery Co.:** *E. & M. Sundell* 12,357 (UAM). In addition, specimens at HSU document callery pear as adventive in Clark County (Dan Marsh, pers. comm.).

SOLANACEAE

***Datura ferox* L. (*D. quercifolia* Kunth).** This previously unreported species of thorn-apple appeared in a soybean field in Clay County. It is a south-western species (Correll & Johnston 1970) probably brought into our area with agricultural seed and not likely to persist. (Thomas and McCoy reported it from East Carroll Parish, Louisiana, in 1982.) Appreciation is expressed to Andy Vangilder and John Boyd of the Arkansas Cooperative Extension Service for sending material (*Vangilder s.n.*) to UAM.

VALERIANACEAE

***Valerianella locusta* (L.)** Latterade was reported for Arkansas by Demaree (1943) and Johnson (1971) but excluded by Smith (1988), who suggested that Arkansas reports were probably based on cultivated material. It is reinstated in the Arkansas flora with collections from a roadside in Sharp County, where plants grew in abundance on mounds of soil (*Sundell & Amason* 12,074 [UAM, UARK]), and a graveyard in Howard County (*Lawson* 1507 [NLU]).

VIOLACEAE

Hybanthus concolor (T.F. Forst.) Spreng. In Arkansas, green violet is well-documented from the Ouachita and Ozark highlands and from Crowley's Ridge. Collections from the wooded shores of Grassy Lake in Hempstead County mark its presence on the Gulf Coastal Plain. *Sundell, Amason, & Stuckey 10,874* (UAM), *Thomas & Amason 139,733, 155,576* (NLU).

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